



Canada's largest freshwater fish, the white sturgeon, has been known to exceed 600 kg. in weight and 6 meters in length. Although fish that size have not been observed in recent years, sturgeon residing in the Fraser River still tip the scales at well over 200 kg.(440 lbs.) Sturgeon were abundant in the Fraser River prior to the turn of the century and were the subject of a commercial fishery for flesh, roe (caviar) and swim bladders (isinglass which was used for commercial glues and in the clarification of beer). Their numbers declined dramatically in the early 1900s and have never fully recovered. Throughout their range, white sturgeon have been impacted by over-fishing, hydroelectric dams, drainage projects, pollution and competition with man for salmon.

Only three river basins in the world - the Sacramento, Columbia and the Fraser - sustain breeding populations of white sturgeon. Requiring 15-30 years to reach sexual maturity, and spawning at intervals of up to 10 years, these impressive fish need long periods of time to replenish their numbers. Five years ago, the provincial Fisheries Program gave them the chance to do so.

With the co-operation of the federal Department of Fisheries and Oceans, a non-retention policy for both the sport and commercial fishery was implemented in 1994. In that same year, First Nation communities voluntarily stopped harvesting Fraser River sturgeon. In 1995, the Province initiated the largest sturgeon program of its kind for the Fraser. This five year program will establish a baseline of information that will be critical to understanding the status of sturgeon, and will help us to determine how fast they can recover and the kind of critically important habitats that need protection.

## Fish From The Past Given A Future

All captured fish are examined to determine age and growth patterns, and some are examined internally using a minor surgical procedure to assess their reproductive status. Most of the captured sturgeon are tagged using a combination of external plastic tags and a glass coated 'PIT' tag, injected just under the skin. While the external tag is usually lost after a year or two, the PIT tag remains with the fish for life and can be 'read' using a special electronic decoder whenever the fish is recaptured. Some sturgeon receive externally attached radio-tags (see page 15) that can be tracked from the air or by boat to determine the exact location of the fish at any time. Tagging is used to monitor movement patterns, identify important habitats and determine population size.

During the capture phase of the program, the Province benefited greatly from the contribution of professional guides who angled these creatures with hook and rod. Additional sturgeon were retrieved on set longlines baited at intervals with salmon, eulachon, lamprey or eel. To date, over 1300 sturgeon have been captured (and some recaptured) between the Lower Fraser and upper Nechako Rivers.

A great deal has been learned. We now know that sturgeon spend most of their lives in large pools in main channels. Infrequent travelers, sturgeon do not appear to undertake long distance movements. Tracking data suggests that Hell's Gate in the Fraser Canyon may be a barrier to movement and that the sturgeon

populations in the upper and lower river are distinct from one another. Sturgeon do move into estuary areas to feed, and from time to time, may move through salt water to other river mouths. There have been reports of mainland sturgeon found along the lower ends of several Vancouver Island rivers.

In the past, protection efforts were hampered by the inability to identify sturgeon habitats. For the first time in 1997 and 1998, sturgeon spawning areas (near Hope, Agassiz and Chilliwack) were identified through the capture of recently hatched larvae. Information such as this will assist fisheries managers to protect important habitats in the face of developmental activities such as channel dredging, gravel mining and other activities that affect river channels.

Sturgeon also represent a significant sport fishing opportunity. The capture phase of this program indicated that these huge animals appear to be tolerant to catch-and-release fisheries, suffering extremely low mortality from the experience. In other words, both the fish and the fishing experience may be preserved and protected for the future.

